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## ABSTRACT OF THE DISCLOSURE

A heating apparatus for a substrate to be processed with a coating film has a chamber with an inner space, a heating plate heating the substrate to be processed in the inner space, and a partition member. The heating plate has a support surface which supports the substrate to be processed within the chamber. The partition member is arranged in the chamber so as to face the support surface. The partition member partitions the inner space into first and second spaces, and has a plurality of pores which allow the first and second spaces to communicate with each other. The support surface of the heating plate is set in the first space. An air stream formation mechanism forming an air stream is arranged in the second space. This mechanism discharges a substance evaporated from the photoresist film.